



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
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6F9540V00131
Job Sheet 200498



Concession # 400000037060

Part No: 6F9540V00131

Job Qty: 1 pcs

Part Name: AW169 Upper Cutter Deflector Assembly



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 9/12/19

Job Tracking No:

Created By: Jennifer Renwick

Due Date: 11/14/19

Type: Stock

Description: SIOP

Note: URF18-746 DWG REV C IPP REV:A 13.11.13 NEW ISSUE DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	Sign-off
					Setup	Run		
					Hrs	Hrs	Workcenter / Supplier Lead Time	
110	Packaging 1 - Pick Kit	1 pcs	11/14/19		0.00	0.00	Packaging 1 - 1	
							Packaging 1 - 2	
							Packaging 1 - 3	
							Packaging 1 - 4	
							Packaging 1 - 5	
							Packaging 1 - 6	
							Packaging 1 - 7	
							Packaging 1 - 8	
							Packaging 1 - 9	
							Packaging 1 - 10	
							Packaging 1 - 11	
							Packaging 1 - 12	
							Packaging 1 - 13	
							Packaging 1 - 14	
							Packaging 1 - 15	
							Packaging 1 - 16	
							Packaging 1 - 17	
							Packaging 1 - 18	
							Packaging 1 - 19	
							Packaging 1 - 20	
							Packaging 1 - 21	
							Packaging 1 - 22	
							Packaging 1 - 23	
							Packaging 1 - 24	
							Packaging 1 - 25	
							Packaging 1 - 26	
							Packaging 1 - 27	



Container No: S227596



Part: 6F9540V00131

Job No: 200498

Serial No/Batch: S227596

Revision:

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 10/29/19

PC

DAS

78

9-89

OCT 29 2019

Plex 9/12/19 9:07 AM Dart.Renwick.Jennifer

https://www.plexonline.com/FFDB852E-CF3F-45CB-AF2E-7B4F5A2FBD63/Plexus_Control/Report_View/Viewer_2.asp?URL=https://www.plexonline.com/F... 2/4

130 Packaging 3-1 - Stock - B4B 1 pcs

11/14/19

0.00 0.00

Packaging 3 - 1 - B4B

Packaging 3 - 2 - B4B

Packaging 3 - 3 - B4B

Packaging 3 - 4 - B4B

Packaging 3 - 5 - B4B

Packaging 3 - 6 - B4B

Packaging 3 - 7 - B4B

Packaging 3 - 8 - B4B

Packaging 3 - 9 - B4B

Packaging 3 - 10 - B4B

Packaging 3 - 11 - B4B

Packaging 3 - 12 - B4B

Packaging 3 - 13 - B4B

Packaging 3 - 14 - B4B

Packaging 3 - 15 - B4B

Packaging 3 - 16 - B4B

Packaging 3 - 17 - B4B

Packaging 3 - 18 - B4B

Packaging 3 - 19 - B4B

Packaging 3 - 20 - B4B

Packaging 3 - 21 - B4B

Packaging 3 - 22 - B4B

Packaging 3 - 23 - B4B

Packaging 3 - 24 - B4B

Packaging 3 - 25 - B4B

Packaging 3 - 26 - B4B

Packaging 3 - 27 - B4B

Packaging 3 - 28 - B4B

Packaging 3 - 29 - B4B

Packaging 3 - 30 - B4B

Packaging 3 - 31 - B4B

Packaging 3 - 32 - B4B

Packaging 3 - 33 - B4B

Packaging 3 - 34 - B4B

Packaging 3 - 35 - B4B

Packaging 3 - 36 - B4B

DAS

78

9-89

OCT 29 2019

135 DC - 1 - B4B

1 pcs

11/14/19

0.00 0.00

DC - 1 - B4B

DC - 2 - B4B

21

9-89

NOV 04 2019

140 QC 21 - FG

1 pcs

11/14/19

0.00 0.00

QC 21 - FG - 21

QC 21 - FG - 70

QC 21 - SA - 53

21

9-89

NOV 04 2019

Part Op 110 - (Pick Kit)

Descriptions: 120 - (QC4- 100% Inspect kits for completeness)

130 - (Identify as per dwg & Stock Location: _____) Identify and pack for shipping as per PPP 6F9540V00131

135 - (Document Control) Photocopy bluefile per PPP D169-841-013 chg002 and create labels per 6F9540V00131 CHG002

140 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D169-841-013	AW169 Upper Cutter Deflector	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	5726350

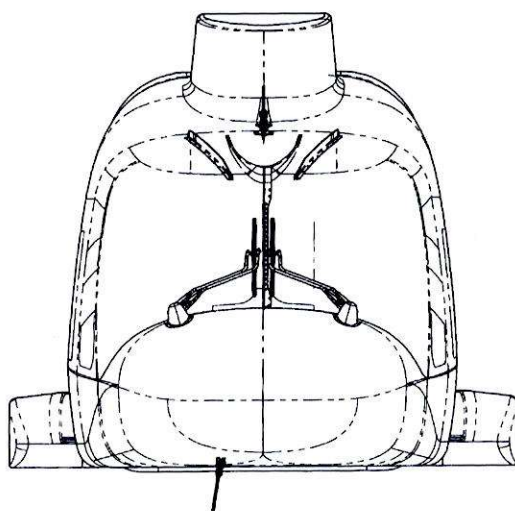
Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit	D169-841-013	1	0	0

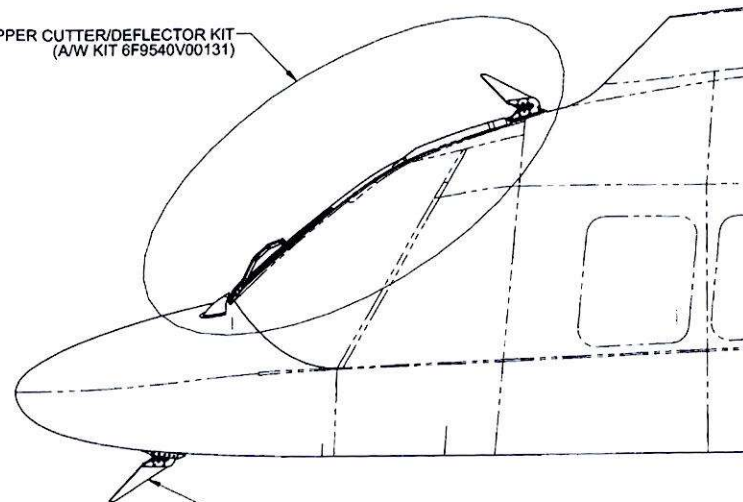
Part Specifications

Specifications could not be found.

Plex 9/12/19 9:07 AM Dart.Renwick.Jennifer



D169-841-013 UPPER CUTTER/DEFLECTOR KIT
(A/W KIT 6F9540V00131)



D169-841-015 LOWER CUTTER KIT
(A/W KIT 6F9540V00231)

D169-841-011 AW169 CABLE CUTTER SYSTEM

QTY -011	QTY -013	QTY -015	DART P/N	DESCRIPTION	AGUSTA WESTLAND P/N
X			D169-841-011	CABLE CUTTER SYSTEM	TBD
1	X		D169-841-013	UPPER CUTTER/DEFLECTOR KIT	6F9540V00131
1		X	D169-841-015	LOWER CUTTER KIT	6F9540V00231
	1		D4821-1	WINDSHIELD DEFLECTOR	TBD
	1		D4822-1	UPPER DEFLECTOR LH	TBD
	1		D4822-2	UPPER DEFLECTOR RH	TBD
	1		D4840-041	UPPER CUTTER ASSY	TBD
	2		D4857-041	WIPER DEFLECTOR ASSY	TBD
	8		MS27039-1-12	SCREW	N/A
	TBD		TBD	FASTENERS	N/A
		1	D4842-041	LOWER CUTTER ASSY	TBD
		5	MS21042L08	LOCKNUT	N/A
		5	MS27039-0824	SCREW	N/A
		10	NAS1149FN832P	WASHER	N/A

D	MS27039-0824 WAS MS27039-0819. REFORMAT PARTS LIST	AJS	15.06.12
C	D4857-041 WAS D4857-1 (D4944-1 GASKETS NOW IN D4857 DRAWING). PARTS LIST: MS27039-1-12 QTY WAS 10	AJS	15.05.20
B	ADD D4944-1 GASKET (ZN A8-1) (ZN B6-2 B8-2) ADD MS27039-1-12 SCREW. D4857-1 WAS D4857-041-042	DW	13.09.23
A	NEW RELEASE	DB	13.07.08
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	CP	DRAWING NO.	REV. D
MFG. APPR.	JLM	IIN-D169-841	SHEET 1 OF 2
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	AW169 CABLE CUTTER SYSTEM	NTS
DATE	15.06.12	COPYRIGHT © 2013 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSES NOT COVERED BY THE ORIGINAL INTENT OF THE PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

APPROVED

		Concessione Fornitore				PAGINA 1 di 2	STAB. EMITTENTE Vergiate	
NC Fornitore N.	AWC-027	Data	05.11.2019	Concessione	400000087060	Ordine	4801939434	
P/N	6F9540V00131			Grado/Categoria	NC	Rev. disegno		
Descrizione Parte	PROTECTR, CCP ASSY UPPER			Quantità Lotto	1,000	Q.tà sotto conc.	1,000	
Coordinatore NC	GIORGIO BENZONI					A/C Model	AW6	
Fornitore	DART AEROSPACE LTD					Contratto		
Difetto MA01 - Materiale diverso dal richiesto - * 05.11.2019 08:57:15 GIORGIO BENZONI (39851) * See supplier concession AWC-027 (attached) Causa del Difetto								
					Ripetività (stesso P/N-Cod.Difetto)	NO ☐	SI ☒	(8)
Valutazioni e proposte dell'ENGINEERING								
Valutazioni dell'Engineering compresi input dell'Esperto:				Rapp. Indagine n.	Rapp. Rispondenza n.			
* 09.11.2019 21:26:14 MARCELLO STEFANELLI (9273) * Accettable to use as is, as for evaluation in the annex document of the supplier								
Classificazione Deviazione dal Type Design secondo EASA part 21A.91: Minore/B								
Effetti del difetto					Limitazioni			
	Prima eventuale riparazione		Dopo eventuale riparazione					
Sicurezza	☐ SI	☐ SI	☐ SI	☐ NO	☐ SI (specificare) ☒ NO			
Vita o durata	☐ SI	☐ SI	☐ SI	☐ NO				
Resistenza	☐ SI	☐ SI	☐ SI	☐ NO				
Prestazioni	☐ SI	☐ SI	☐ SI	☐ NO				
Intercambiabilità	☐ SI	☐ SI	☐ SI	☐ NO				
Affidabilità	☐ SI	☐ SI	☐ SI	☐ NO				
Manutenibilità	☐ SI	☐ SI	☐ SI	☐ NO				
Installabilità	☐ SI	☐ SI	☐ SI	☐ NO				
Testabilità	☐ SI	☐ SI	☐ SI	☐ NO				
Solo aspetto	☐ SI	☐ SI	☐ SI	☐ NO				
Nessun effetto	☒ SI							
Proposte di recupero:					Decisione di Impiego ☐ Usare riparato con riparazione specifica ☐ Usare riparato con riparazione nota ☒ Usare com'è ☐ Usare riparato per prove (vedi Limitaz.) ☐ Usare com'è per prove (vedi Limitazioni) ☐ Scartare			
Classificazione Concessione ☐ MAGGIORE ☒ MINORE					Ripresentare dopo riparazione ☐ SI ☒ NO			
Marcatura ☒ NO ☐ SI Metodo :								
ATE	MARCELLO STEFANELLI			CPE			Data	09.11.2019
Verifiche e prove da effettuare								
Registraz. della riparazione Con Ordine (WO) di riparazione ☐ Numero:								
Valutazione Riparazione:								
Decisioni finali								
S/N	Usare com'è (UTI)	Usare riparato (RIL)	Scartare (SCA)	S/N	Usare com'è (UTI)	Usare riparato (RIL)	Scartare (SCA)	
S227596	☒	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
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	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
	☐	☐	☐		☐	☐	☐	
Non Serializzati	Q.tà Usare com'è	1,000	Q.tà Usare riparato		Q.tà Scartare			
Funzione	ATE AW	CPE AW	Verifica della Riparazione	Qualità	Cliente	MOD/Rappresent. Istituzionale		
Firma	MARCELLO STEFANELLI			GIORGIO BENZONI				
Data	09.11.2019			11.11.2019				



Concessione Fornitore

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STAB. EMITTENTE
Vergiate

NC Fornitore N.	AWC-027	Data	05.11.2019	Concessione	400000087060	Ordine	4801939434
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CAUSE DEL DIFETTO

- C8C5 Metodo e Processi

		CONCESSION				Pag. 1 of 3	
Manuf. Doc. N.	AWC-027	Date	Oct 30, 2019	AW Doc. N.	400000087060	Purchase Order	4801939434
AW P/N	6F9540V00131	S/N / Batch Number	S227596	Grade	A	AW Drawing Issue	B
Description	Protector, CCP Assembly Upper			Batch Q.ty	1	Defective Q.ty	1
Manufacturer	Dart Aerospace LTD			Model	AW169		
Defect(s) Description							
1. D4857-041 (x2) and D4944-1 (x4) , P/N 6F9540V00131, to be supplied without the 4x Ø5.33mm / Ø.210" holes drilled per drawing. The operation of drilling the 4x Ø5.33mm / Ø.210" holes to be performed by Leonardo operators on attached production permit. 2. The material of the D4823-1 Upper Cutter Deflector and D4824-1 Upper Cutter Mount was deviated from the approved Data. The parts were manufactured using aluminum plate per AMS-QQ-A-250/12 instead of aluminum bar. The substantiation for the deviation is provided in the attached engineering evaluation. 3. The grain direction on the D4823-1 Upper Cutter Deflector and D4824-1 Upper Cutter Mount, Deflector was deviated from the approved Data. The substantiation for the deviation is provided in the attached engineering evaluation.							
				Department	Inspector	Signature	Date
				Quality Assurance	 DAS-9-9-89	 P. Duval	Nov 13, 2019
Defect(s) Cause							
1. Due to issue regarding from QJ 200001282441 Dart Aerospace Drawing requirements and requirements specified in Leonardo's 3D model parts are to be supplied to Leonardo with out the Ø5.33mm / Ø.210" holes drilled per drawing D4857. Previous parts provided the hole pattern do not match the A/C structure. 2. To facilitate manufacture, Dart would like to modify the material on the approved drawing to manufacture the parts using aluminum plate per AMS-QQ-A-250/12. 3. To minimize material waste, Dart would like to modify the grain direction on the approved drawing.							
				Department	Inspector	Signature	Date
				Quality Assurance	 DAS-9-9-89	 P. Duval	Nov 13, 2019
Corrective Action				Complete Before			

Dart requests Leonardo Helicopters to accept the modified parts as described in this Concession. Dart is in the process of updating the drawings for approval by Leonardo Helicopters for future production.

Department	Inspector	Signature	Date
Quality Assurance	DAS 9 9-89 DAS-9-9-89	 P. Duval	Nov 13, 2019

For "MANUFACTURER" SUPPLIERS ONLY

ENGINEERING evaluation and proposal

Engineering evaluation

Investigation report
Compliance report

n: NCR17-6591
n...N/A.....

1-No design change. Removing the holes from the D4857-041 Deflectors and having them drilled during installation will prevent mismatched holes during installation.

2-In reference to Structural Substantiation Report DA169-4 page 48, the cable cutter system (CCS) was analysed using 7075-T6 aluminum sheet iaw AMS-QQ-A-250/12. Therefore manufacture of CCS parts using AMS-QQ-A-250/12 material has no effect on the structural substantiation.

3-Per DA169-4, the minimum margin of safety for the D4823-1 Upper Cutter Deflector and D4824-1 Upper Cutter Mount is 0.15 (page 66, 15 degree cutting strike on mount) which corresponds with a maximum stress of 61.9 ksi.

In reference to MMPDS-07 Tables 3.7.9.0 (b₂) & (b₃), the minimum yield strength of AMS-QQ-A-250/12 plate between 0.250"-2.000" thick in either the L or LT grain direction is 64 ksi (7075-T62 in longitudinal grain direction).

Repeating the margin of safety calculation in DA169-4 for 64 ksi material strength:

$$\begin{aligned}
 MS &= (\text{Yield Strength} / \text{Maximum Load}) - 1 \\
 &= (64 \text{ ksi} / 61.9 \text{ ksi}) - 1 \\
 &= 0.03
 \end{aligned}$$

The margin of safety is positive. Therefore the grain direction can be rotated in the L – LT plane with no effect on the strength substantiation of the D4823-1 or D4824-1 parts.

Defect effects			Limitations
	Before any repair	After any repair	
	☐ yes	☐ yes ☐ no	☐ yes (specify) ☒ no
Safety	☐ yes	☐ yes ☐ no	
Life	☐ yes	☐ yes ☐ no	
Strength	☐ yes	☐ yes ☐ no	
Performances	☐ yes	☐ yes ☐ no	
Interchangeability	☐ yes	☐ yes ☐ no	
Reliability	☐ yes	☐ yes ☐ no	
Maintainability	☐ yes	☐ yes ☐ no	
Installability	☐ yes	☐ yes ☐ no	
Testability	☐ yes	☐ yes ☐ no	
Only aspect	☐ yes	☐ yes ☐ no	
Repair Proposal		Decision to use ☐ Use repaired with specific repair ☐ Use repaired with known repair ☐ Use as is ☐ Use repaired for tests (see Limitations) ☐ Use as is for tests (see Limitations) ☐ Scrap	
Concession Classification	☒ Major ☐ Minor	Submit after repair	☐ yes ☐ no